Prognosis for Navy Medicine

By Rear Admiral C. L. Waite, MC, U. S. Navy

The surgeon on the facing page, peering through his Lempert Storz headlight, has learned to expect the unexpected in the operating room; so too, has the medical planner learned to expect surprises as he tries to predict what the future holds for the Navy's Medical Department.

In early 1940, no one attempting to predict medical progress or the role of the Navy's Medical Department for the next three decades could have conceived of all the advances and the changes to be realized. The dawn of chemotherapy in the form of the sulfone drugs had broken during the Spanish Civil War, but the golden day of antibiotics remained obscure, though only months away. Carrell's and Lindbergh's experimentation with an artificial heart gave no true promise of the modern day heart-lung machine, the miracles of heart surgery, or the artificial kidney. Tissue preservation, eye banks, and organ transplantation, and the entire field of nuclear medicine could not be predicted by the most alert observers.

The conclusions that can be drawn by anyone attempting to forecast the future are that no one can accurately predict events to come, and that surprises, beneficial and detrimental, are in store for us.

In response to this uncertainty, the predictor and planner must constantly be alert to the development of major trends which show signs of becoming realities and, at the same time, be able to adapt readily to that which has not been predicted.

Pertinent Trends Influencing Navy Medicine. The future for naval medicine will be influenced by foreseeable national trends in health care and defense. Both of these will be affected by the application of a variety of developed or developing technologies.

National security will of necessity remain a national goal. Quality health care, which in fact is becoming a right for all citizens, will be another national goal and one which the naval medical professional must seek concomitantly with defense goals.

The re-emergence of the United States as a maritime power is also projected and this will make the Navy's mission of control of the seas doubly vital. Similarly, a continuing exploitation of the ocean's floor will only serve to augment the Navy's mission in protecting our national marine resources.

The Navy, in strength of men and ships, will not become smaller than that projected for Fiscal Year 1973. It will be highly versatile and all nuclear by 1995, with the exception of the smaller auxiliaries and support craft. In content, the Fleet will be a balance of capabilities on, under, and over the oceans, supported by multipurpose logistic vessels. Fuel logistics requirements will be lessened, but nuclear repair facilities will be increased, requiring more training and a broader effort in both ionizing and non-ionizing radiation health protection and monitoring. Sea-based deterrence, antisubmarine defense and the highly mobile amphibious and vertical assault strike force will be the Navy's main contributions to our defense posture.

With considerably less forces present on foreign shores, the Navy's role in reinforcing the U. S. presence in support of our global policies will be even greater.

It is difficult to assume that it will require fewer men to man a technologically more complex Navy since new technology creates new jobs and the hardware developed must be maintained and repaired. The manning levels required for our warships and some of our support vessels may be less, but the multipurpose support ships will require more men and a larger medical department.

While active duty manpower will be somewhat lessened, along with a proportionate decline in the number of dependents requiring care, the allocation of medical resources to care for retired personnel should steadily increase for the next two decades. This latter projection is difficult to forecast accurately because it is subject to possible developments in national health care programs. It is most probable that we will continue to include retired personnel as our responsibility in any event.

One overriding reason that a successful national health program is unlikely in this decade is the lack of medical and allied health personnel to support such an undertaking. This means that our current planning should not rest on the probability that a meaningful portion of our medical obligations to active duty, dependent or retired people will be underwritten on either a contractual basis or by an effective national health program.

With the foregoing array of trends to build upon, it is reasonable to conclude that to meet our major Medical Department goal, namely quality health care for all eligible persons, we must rely entirely on our own innovative and resourceful efforts reinforced by our line colleagues' interest and support.

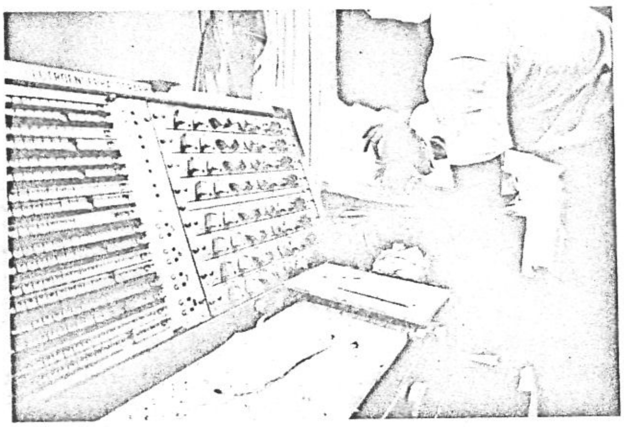
It is envisioned that successful health care delivery in the Navy of the future will be achieved by:

- Development of a regionalized health care system
- Extended use of allied health personnel
- The imaginative use of modern technology to facilitate both of the foregoing

A regionalized Navy health care system. Regionalization of medical care in areas of major naval and Marine population concentrations is viewed as the first step toward the stated goal. A model regional health care system includes a major teaching hospital and coordinated area medical facilities. The coordination would be achieved under the direction of a senior medical officer responsive to the area's needs and supported and funded by the Bureau of Medicine and Surgery.

The Regional Medical Coordinator should have authority to manipulate his manpower and material resources to assure their maximum use toward meeting the needs for quality health care to the degree required anywhere in the area. To effectively accomplish this and also be responsive to the needs of an area, he must be a member of the staff of the ranking military authority present.

ROBERT D. MOESER



A corpsman places leads from an electroencephalograph on a patient's scalp on board the hospital ship Repose *(AH-16). The day may not be far off when a corpsman or physician's assistant, at sea or in a remote area, may use an international medical satellite system to send and receive data for consultative assistance or guidance.*

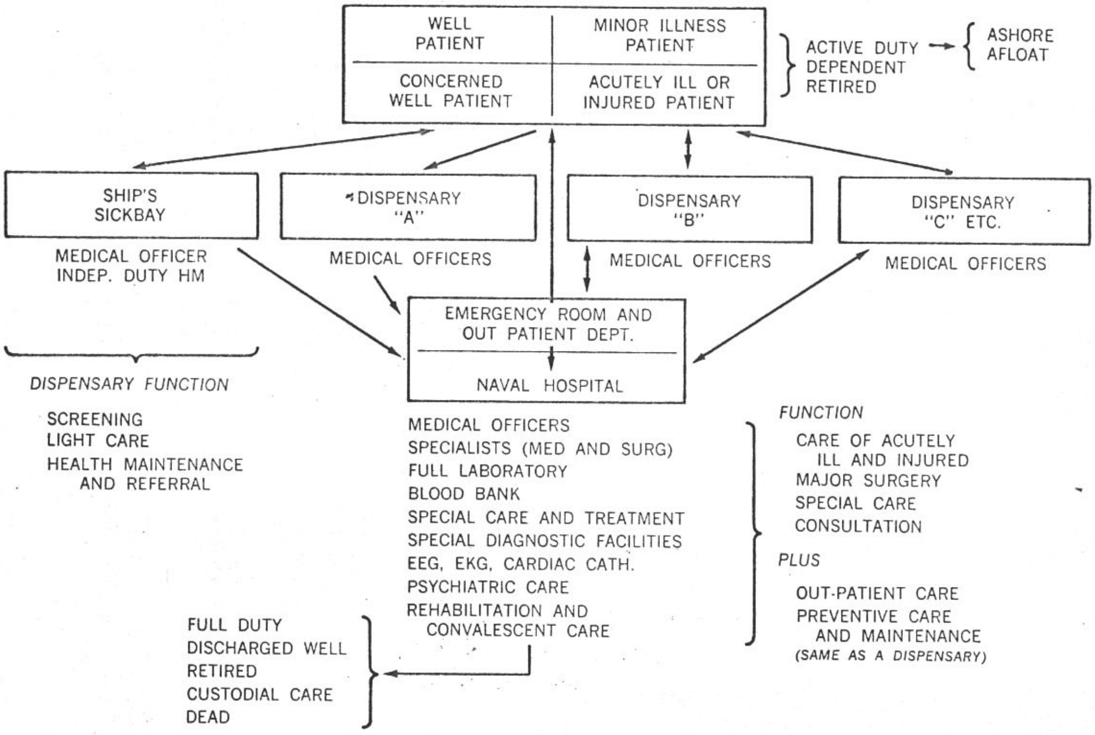
The model for regionalization should reserve the hospital setting and its special resources for the care of the seriously ill and injured. It must also be realistic in meeting the major requirement for prompt quality out-patient care and the treatment of minor illnesses and injuries. This type of facility in current health care jargon is the so called "light care facility" and is represented, with some modifications, by the present naval dispensary.

The emerging concept which should be added to make this system work is the health screening and referral facility, which on a 24-hour-a-day basis screens the ill from the well and refers patients into the proper area facility to meet the degree of care required. The number of these clinics required will depend on the size of the population and the number of activities in a given area.

Another major element of a successful regional model is health maintenance. Health maintenance typically incorporates such services as routine examinations for well babies, prenatal care, annual and overseas physicals, school physicals, health education and family planning, routine chest X-rays, tuberculin testing, and immunizations. It could also include follow-up clinics for certain chronic conditions such as arthritis, diabetes, allergies, etc. The latter clinics and health maintenance service could be an integral part of the "light care facility" if desired.

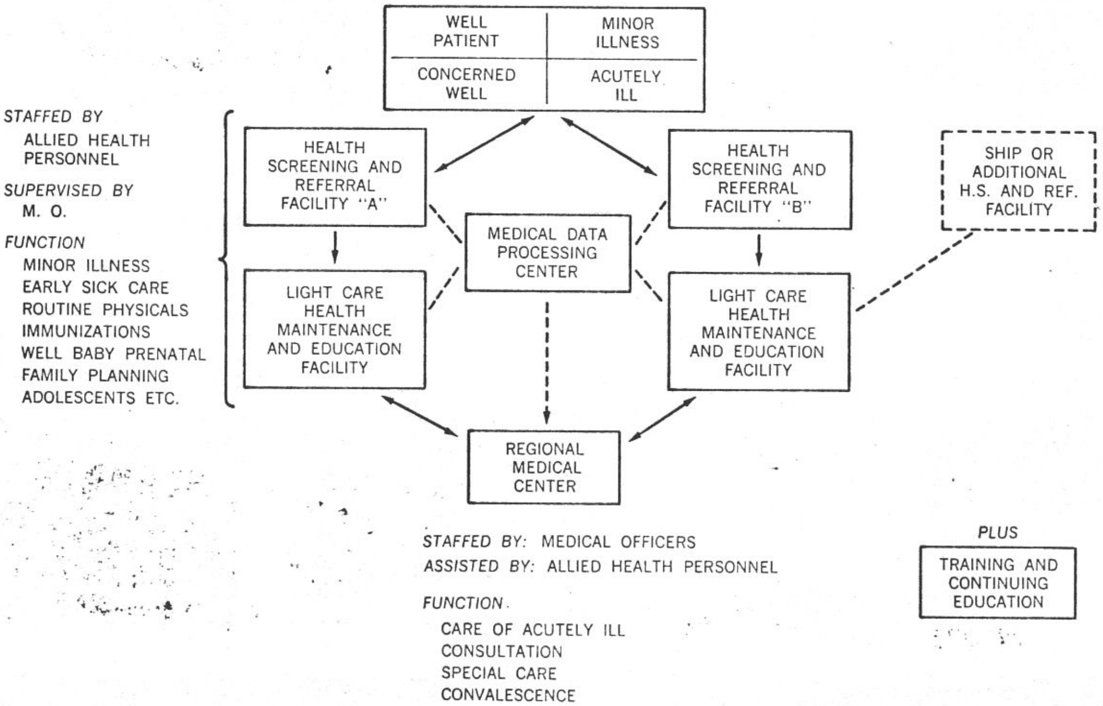
It is easy to envision other major benefits accruing from such a system. One of these benefits would be a coordinated medical training and continuing medical education program for the area. Medical officers, corpsmen, and nurses in the light care, screening, and maintenance facilities could, on a regular basis, be cycled through refresher courses, and attend conferences at medical centers. Similar programs are envisioned for the Medical Service Corps officers in health care administration and the allied sciences. Specialists at the medical centers or hospitals could also visit the satellite facilities as consultants. Another benefit would be the assurance of the quality of care by regional consultants throughout the area. Special situations, such as disasters, epidemics, unusual increases in patient loads, and seasonal crises (e.g., large number of school physicals) could be met with a flexibility and coordinating capability not presently possible. Just as a squadron commander transfers a needed navigator to a deploying ship, the Re-

A Proposed System of Health Care



NOTE: DISP "A" AND SHIP'S SICK BAY ARE SEPARATELY MANAGED FROM DISP "C".
DISP "B" AND THE HOSPITAL ARE BUMED MANAGED.

The Navy's Present Health System


WELL PATIENT
MINOR ILLNESS
CONCERNED WELL
ACUTELY ILL
STAFFED BY
ALLIED HEALTH PERSONNEL
SUPERVISED BY
M. O.
FUNCTION
MINOR ILLNESS
EARLY SICK CARE
ROUTINE PHYSICALS
IMMUNIZATIONS
WELL BABY PRENATAL
FAMILY PLANNING
ADOLESCENTS ETC.
HEALTH SCREENING AND REFERRAL FACILITY "A"
HEALTH SCREENING AND REFERRAL FACILITY "B"
SHIP OR ADDITIONAL H.S. AND REF. FACILITY
MEDICAL DATA PROCESSING CENTER
LIGHT CARE HEALTH MAINTENANCE AND EDUCATION FACILITY
LIGHT CARE HEALTH MAINTENANCE AND EDUCATION FACILITY
REGIONAL MEDICAL CENTER
STAFFED BY: MEDICAL OFFICERS
ASSISTED BY: ALLIED HEALTH PERSONNEL
FUNCTION
CARE OF ACUTELY ILL
CONSULTATION
SPECIAL CARE
CONVALESCENCE
PLUS
TRAINING AND CONTINUING EDUCATION

gional Medical Coordinator must be able to control his resources to meet the medical requirements. The Regional Medical Coordinator working closely with the Fleet Surgeon could ensure that the Navy's *raison d'être* receives the optimum medical support necessary to meet its obligations. The morale and professional ability of the medical personnel afloat will undoubtedly be reinforced by a system which ensures meaningful use and the opportunity to remain professionally competent.

Extended use of allied health personnel. Especially trained corpsmen, nurses, and Medical Service Corps officers must take on new roles in health care delivery designed not only to help lighten the medical officers load but also to actually deliver certain supervised fundamental components of health care. They would be particularly valuable in the light care facility, screening, and health maintenance facilities.

Physician's assistants, just coming into being in the Navy, may be another means of conserving physicians. The Navy's nurses and independent duty corpsmen already admirably fill part of this requirement and it is possible that with additional training a segment of this asset can be converted to physician's assistants. With an extension of the independent duty corpsman's training and role it is reasonable to foresee these specially trained corpsmen taking on increased responsibilities as Medical Department representatives afloat. Particularly if their talent and efforts are supported by technologically feasible advancements in communications and transportation.

The use of modern and developing technology to support health care delivery ashore and afloat. The use of either Navy-dedicated communications or an international medical satellite system—in which the corpsman, physician, or physician's assistant at sea, or in some remote area, could send and receive medical data for consultative assistance or guidance—is highly feasible. Computer-directed treatment regimens and diagnostic assistance could also be made available to the isolated station or ship.

Long-range VTOL, STOL aircraft could be employed in a patient evacuation system to transfer the seriously ill or injured to the nearest large ship or shore medical facility. This approach is definitely preferred to attempting major surgery or handling a seriously ill patient with limited facilities and without adequate backup.

Ashore, automation and the use of computers and electronic data processing machines should greatly assist the hospital, light care facility, medical supply depot, and patient record-keeping. Automated laboratories, multiphasic screening tests, computer-assisted patient scheduling, and administrative record-keeping will all tend to assure a better use of our manpower, and a more expeditious handling of patients. They should also provide a faster, more accurate, and possibly more economic, means of delivering certain medical services. An effective regional health care delivery system cannot be achieved without electronic data processing and data retrieval support.

In the hospital setting, special diet selection, the delivery of foods and medication, the collection of physiological data, the disposal of wastes, and the monitoring of many patients by a few medical personnel are all within the realm of present and developing technologies. The developing science of holography will make it possible on hospital and shipboard to save a great deal of space now dedicated to medical records, libraries, laboratory data, and X-ray film storage.

None of these technological innovations, advanced regional delivery systems, and the like will be worth acquiring unless we ensure that they help deliver better care, and that the human resources realized are placed face-to-face with the people we serve in a friendly and empathetic manner.

We must make a special effort now and in the future to educate those whom the Medical Department serves on how to get the most out of the system when it is required, and especially on how much can be expected of the system.

Many of our Navy and Marine Corps personnel and their dependents do not fully appreciate the excellence of the care presently provided, for they have no basis for comparison with other systems or are receiving medical care as an initial experience in the Navy. Frequently, the excellence of care is obscured by the difficulty of getting an appointment, undue waiting, or an encounter with an unfeeling or discourteous first contact. Much of this can be overcome by improved system design, and a concerted effort on our part to ensure that all contacts are professional and sympathetic.

How we succeed in the future in meeting our obligations to those we serve will depend on our ability to continue to provide quality care, strengthened by a genuine concern for our patients as the Navy's most valuable resource.

A graduate of Georgetown University School of Medicine in 1946, Rear Admiral Waite served a one-year internship at the U.S. Naval Hospital, Bethesda, Maryland. Graduating from the Navy's Deepsea Diving and Submarine Schools in 1947, and having been certified in Pediatrics in 1954, Admiral Waite spent most of the 20 years from 1947 to 1967 as either Medical Officer to submarine personnel—e.g., Submarine Squadron One (1952 to 1955) and CO of Submarine Medical Center, Groton (1964 to 1967)—or administering to dependent children—e.g., Assistant Chief of Pediatrics, USNH, Bethesda (1955 to 1958), and Chief of Pediatrics, USNH, Philadelphia (1960 to 1962). He commanded the Naval Medical School, NNMC, Bethesda, from 1968 to 1971, when he assumed his present duties at Fleet Medical Officer, CinCPacFlt, and Surgeon, ComInChPac.